



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2023-0015; Project Identifier AD-2022-01281-T]

RIN 2120-AA64

Airworthiness Directives; AVOX System Inc. (formerly Scott Aviation) Oxygen

Cylinder and Valve Assemblies; and Oxygen Valve Assemblies

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to supersede Airworthiness Directive (AD)

2022-04-09, which applies to certain AVOX System Inc. (formerly Scott Aviation)

oxygen cylinder and valve assemblies; and oxygen valve assemblies; installed on but not

limited to various transport airplanes. AD 2022-04-09 requires an inspection of the

oxygen valve assemblies, and oxygen cylinder and valve assemblies, to determine the

serial number; for certain assemblies and parts, a detailed inspection of the gap between

the bottom of the packing retainer and top of the valve body on the assemblies; and

replacement of assemblies having unacceptable gaps. Since the FAA issued

AD 2022-04-09, the agency determined additional assemblies and parts are affected by

the unsafe condition. This proposed AD would require an inspection of the oxygen valve

assemblies, and oxygen cylinder and valve assemblies, to determine the serial number of

the valve, cylinder, and entire assembly. For assemblies and parts with certain serial

numbers, this proposed AD would require a detailed inspection for correct spacing of the

gap between the bottom of the packing retainer and top of the valve body on the

assemblies, and replacement of assemblies having unacceptable gaps. This proposed AD

would also limit the installation of affected parts under certain conditions. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to [regulations.gov](https://www.regulations.gov). Follow the instructions for submitting comments.

- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-0015; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

Material Incorporated by Reference:

- For service information identified in this NPRM, contact AVOX Systems Inc., 225 Erie Street, Lancaster, NY 14086; telephone 716-683-5100; internet [safranaerosystems.com](https://www.safranaerosystems.com).

- You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

FOR FURTHER INFORMATION CONTACT: Elizabeth Dowling, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; email 9-avs-nyaco-cos@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2023-0015; Project Identifier AD-2022-01281-T” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend the proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this proposed AD.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked

submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Elizabeth Dowling, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; email 9-avs-nyaco-cos@faa.gov. Any commentary that the FAA receives that is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA issued AD 2022-04-09, Amendment 39-21951 (87 FR 10958, February 28, 2022) (AD 2022-04-09), for certain AVOX System Inc. (formerly Scott Aviation) oxygen cylinder and valve assemblies, and oxygen valve assemblies, installed on but not limited to various transport airplanes. AD 2022-04-09 was prompted by reports of cylinder and valve assemblies having oxygen leakage from the valve assembly vent hole, caused by the absence of a guide that maintains appropriate spacing between certain parts. AD 2022-04-09 requires an inspection of the oxygen valve assemblies, and oxygen cylinder and valve assemblies, to determine the serial number of the valve, cylinder, and entire assembly. For assemblies and parts with certain serial numbers, AD 2022-04-09 requires a detailed inspection for correct spacing of the gap between the bottom of the packing retainer and top of the valve body on the assemblies, and replacement of assemblies having unacceptable gaps. The agency issued AD 2022-04-09 to address oxygen leakage from the cylinder, which could result in decreased or insufficient oxygen supply during a depressurization event; and heating or flow friction, which could cause an ignition event in the valve assembly.

Actions Since AD 2022-04-09 Was Issued

Since the FAA issued AD 2022-04-09, the agency determined additional assemblies and parts are affected by the unsafe condition. New service information has

been issued that expands the population of discrepant parts, providing more serial numbers for which to inspect.

FAA's Determination

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Related Service Information under 1 CFR Part 51

The FAA reviewed the following service information, which describes procedures for an inspection to determine the serial numbers of the oxygen cylinder and valve assemblies, and the oxygen valve assemblies, a detailed inspection for correct spacing of the gap between the bottom of the packing retainer and top of the valve body on the assemblies, parts marking, inspection report, and return of parts to the manufacturer. These documents are distinct since they apply to different assembly part numbers.

- AVOX Systems Inc. Alert Service Bulletin 10015804-35-01, Revision 03, dated June 7, 2021.
- AVOX Systems Inc. Alert Service Bulletin 10015804-35-02, Revision 03, dated March 11, 2022.
- AVOX Systems Inc. Alert Service Bulletin 10015804-35-03, Revision 03, dated June 18, 2021.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Proposed AD Requirements in this NPRM

This proposed AD would require accomplishing the actions specified in the service information described previously. This proposed AD would limit the installation

of affected parts under certain conditions and require returning the affected parts and sending the inspection results to the manufacturer.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 3,034 oxygen cylinder and valve assemblies, and oxygen valve assemblies, installed on various transport category airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Serial number inspection	1 work-hour X \$85 per hour = \$85	None	\$85	\$257,890
Reporting	1 work-hour X \$85 per hour = \$85	\$0	\$85	\$257,890

The FAA estimates the following costs to do any necessary follow-on actions that would be required based on the results of the inspection. The FAA has no way of determining the number of aircraft that might need these actions:

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Detailed inspection	1 work-hour X \$85 per hour = \$85	\$0	\$85
Replacement	1 work-hour X \$85 per hour = \$85	\$0 *	\$85

* The FAA has received no definitive data on the parts cost for the on-condition replacements.

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some or all of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected operators.

Paperwork Reduction Act

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to be approximately 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA has determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by:

- a. Removing Airworthiness Directive (AD) 2022-04-09, Amendment 39-21951 (87 FR 10958, February 28, 2022), and

- b. Adding the following new AD:

AVOX Systems Inc. (formerly Scott Aviation): Docket No. FAA-2023-0015; Project Identifier AD-2022-01281-T.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2022-04-09, Amendment 39-21951 (87 FR 10958, February 28, 2022) (AD 2022-04-09).

(c) Applicability

This AD applies to AVOX Systems Inc. (formerly Scott Aviation) oxygen cylinder and valve assemblies having part number (P/N) 89794077, 89794015, 891511-14, 806835-01, 807982-01, 808433-01, or 891311-14; and oxygen valve assemblies (body and gage assemblies) having P/N 807206-01. These assemblies might be installed on, but not limited to, the aircraft identified in paragraphs (c)(1) through (12) of this AD, certificated in any category.

(1) Airbus SAS Model A300 B2-1A, B2-1C, B2K-3C, B2-203, B4-2C, B4-103, and B4-203 airplanes.

(2) Airbus SAS Model A300 B4-601, B4-603, B4-620, B4-622, B4-605R, B4-622R, F4-605R, F4-622R, and C4-605R Variant F airplanes.

(3) Airbus SAS Model A310-203, -204, -221, -222, -304, -322, -324, and -325 airplanes.

(4) Airbus SAS Model A318-111, -112, -121, and -122 airplanes.

(5) Airbus SAS Model A319-111, -112, -113, -114, -115, -131, -132, -133, and -151N airplanes.

(6) Airbus SAS Model A320-211, -212, -214, -216, -231, -232, -233, -251N, -252N, -253N, -271N, -272N, and -273N airplanes.

(7) Airbus SAS Model A321-111, -112, -131, -211, -212, -213, -231, -232, -251N, -252N, -253N, -271N, -272N, -251NX, -252NX, -253NX, -271NX, and -272NX airplanes.

(8) Airbus SAS Model A330-201, -202, -203, -223, -243, -301, -302, -303, -321, -322, -323, -341, -342, -343, and -941 airplanes.

(9) Airbus Model A340-211, -212, -213, -311, -312, -313, -541, and -642 airplanes.

(10) ATR—GIE Avions de Transport Régional Model ATR42-200, -300, -320, and -500 airplanes.

(11) ATR—GIE Avions de Transport Régional Model ATR72-101, -102, -201, -202, -211, -212, and -212A airplanes.

(12) The Boeing Company Model 747-8 airplanes.

(d) Subject

Air Transport Association (ATA) of America Code 35, Oxygen System.

(e) Unsafe Condition

This AD was prompted by reports of cylinder and valve assemblies having oxygen leakage from the valve assembly vent hole, caused by the absence of a guide that maintains appropriate spacing between certain parts. The FAA is issuing this AD to address oxygen leakage from cylinder and valve assemblies. The unsafe condition, if not addressed, could result in decreased or insufficient oxygen supply during a depressurization event; and heating or flow friction, which could cause an ignition event in the valve assembly.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Definition of Detailed Inspection

For the purposes of this AD, a detailed inspection is an intensive examination of a specific item, installation, or assembly to detect damage, failure, or irregularity.

Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirror, magnifying lenses, etc., may be necessary. Surface cleaning and elaborate procedures may be required.

(h) Identification of Affected Cylinder and Valve Assemblies

Within 60 days after the effective date of this AD, inspect the oxygen valve assemblies, and oxygen cylinder and valve assemblies, to determine if the serial numbers of the valve, cylinder, and entire assembly, are listed in Appendix 1 or Appendix 2, “Affected Shipments,” of the applicable service information identified in paragraphs (h)(1) through (3) of this AD. A review of airplane maintenance records is acceptable in lieu of this inspection if the serial numbers can be conclusively determined from that review.

(1) AVOX Systems Inc. Alert Service Bulletin 10015804-35-01, Revision 03, dated June 7, 2021.

(2) AVOX Systems Inc. Alert Service Bulletin 10015804-35-02, Revision 03, dated March 11, 2022.

(3) AVOX Systems Inc. Alert Service Bulletin 10015804-35-03, Revision 03, dated June 18, 2021.

(i) Inspection of the Gap, Parts Marking Actions, and Replacement, With No Changes

If, during any inspection or records review required by paragraph (h) of this AD, any oxygen valve assembly, valve or cylinder of an oxygen cylinder and valve assembly, or oxygen cylinder and valve assembly having an affected serial number is found: Before further flight, do a detailed inspection for correct spacing of the gap between the bottom of the packing retainer and top of the valve body, in accordance with paragraph 3.C. of

the Accomplishment Instructions of the applicable service information identified in paragraphs (h)(1) through (3) of this AD.

(1) If the gap is found to be acceptable, as defined in the applicable service information identified in paragraphs (h)(1) through (3) of this AD, before further flight, do the parts marking actions in accordance with paragraph 3.D.(1) of the Accomplishment Instructions of the applicable service information identified in paragraphs (h)(1) through (3) of this AD.

(2) If the gap is found to be unacceptable, as defined in the applicable service information identified in paragraphs (h)(1) through (3) of this AD, before further flight, remove the affected assembly, in accordance with paragraphs 3.D.(2) or 3.D.(3), as applicable, of the Accomplishment Instructions of the applicable service information identified in paragraphs (h)(1) through (3) of this AD; and replace with a serviceable assembly.

(j) Reporting and Return of Parts

(1) Report the results of the inspection required by paragraph (i) of this AD within the applicable time specified in paragraph (j)(1)(i) or (ii) of this AD. Report the results in accordance with paragraph 3.D.(1)(a) of the Accomplishment Instructions of the applicable service information identified in paragraphs (h)(1) through (3) of this AD.

(i) If the inspection was done on or after the effective date of this AD: Submit the report within 30 days after the inspection.

(ii) If the inspection was done before the effective date of this AD: Submit the report within 30 days after the effective date of this AD.

(2) If, during the inspection required by paragraph (i) of this AD, any gap is found to be unacceptable, within the applicable time specified in paragraph (j)(2)(i) or (ii) of this AD, return the assembly to the manufacturer in accordance with paragraph 3.D.(2) or 3.D.(3), as applicable, of the Accomplishment Instructions of the applicable service

information identified in paragraphs (h)(1) through (3) of this AD, except you are not required to contact AVOX for shipping instructions.

(i) If the inspection was done on or after the effective date of this AD: Return the assembly within 30 days after the inspection.

(ii) If the inspection was done before the effective date of this AD: Return the assembly within 30 days after the effective date of this AD.

(j) Parts Installation Limitation

As of the effective date of this AD, no AVOX Systems Inc. oxygen valve assembly, or valve or cylinder that is part of an oxygen cylinder and valve assembly, or oxygen cylinder and valve assembly having an affected serial number identified in Appendix 1, "Affected Shipments," or Appendix 2, "Affected Shipments," of any AVOX Systems Inc. service information identified in paragraphs (h)(1) through (3) of this AD may be installed on any airplane unless the requirements of paragraph (i) of this AD have been accomplished on that affected assembly.

(k) Credit for Previous Actions

(1) This paragraph provides credit for the actions specified in paragraphs (h) or (i) of this AD, if those actions were performed before the effective date of this AD using the service information specified in paragraphs (k)(1)(i) through (iii) of this AD. This service information is not incorporated by reference in this AD.

(1) AVOX Systems Inc. Service Bulletin 10015804-35-01, dated March 6, 2019; and AVOX Systems Inc. Alert Service Bulletin 10015804-35-01, Revision 01, dated July 9, 2019.

(2) AVOX Systems Inc. Alert Service Bulletin 10015804-35-02, Revision 1, dated September 4, 2019.

(3) AVOX Systems Inc. Service Bulletin 10015804-35-03, dated April 11, 2019; and AVOX Systems Inc. Alert Service Bulletin 10015804-35-03, Revision 01, dated May 21, 2019.

(2) This paragraph provides credit for the actions specified in paragraphs (h) or (i) of this AD, if those actions were performed before the effective date of this AD using the service information specified in paragraphs (k)(2)(i) through (iii) of this AD, which was incorporated by reference in AD 2022-04-09.

(1) AVOX Systems Inc. Alert Service Bulletin 10015804-35-01, Revision 02, dated October 16, 2019.

(2) AVOX Systems Inc. Alert Service Bulletin 10015804-35-02, Revision 2, dated October 31, 2019.

(3) AVOX Systems Inc. Alert Service Bulletin 10015804-35-03, Revision 02, dated October 15, 2019.

(l) Alternative Methods of Compliance (AMOCs)

(1) The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(m) Related Information

(1) For more information about this AD, contact Elizabeth Dowling, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; email 9-avs-nyaco-cos@faa.gov.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (n)(3) and (4) of this AD.

(n) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) AVOX Systems Inc. Alert Service Bulletin 10015804-35-01, Revision 03, dated June 7, 2021.

(ii) AVOX Systems Inc. Alert Service Bulletin 10015804-35-02, Revision 03, dated March 11, 2022.

(iii) AVOX Systems Inc. Alert Service Bulletin 10015804-35-03, Revision 03, dated June 18, 2021.

(3) For service information identified in this AD, contact AVOX Systems Inc., 225 Erie Street, Lancaster, NY 14086; telephone 716-683-5100; internet safranaerosystems.com.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on January 10, 2023.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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